

**[0234]** 4) Because the Section comprises Traversal relationship will result in many records for each traversal, include a `SELECT DISTINCT` or `GROUP BY` clause to eliminate this redundancy.

**[0235]** The “Traversal overlaps Traversal” relationship identifies traversals that overlap with another traversal. For example, this relationship could be used to list all of the alternate names that occur along a given traversal. The following preferred method describes how to implement the Traversal overlaps Traversal relationship. In this description, the term “primary traversal” refers to the traversal Entity class that is the primary Entity class for the query, and the term “join traversal” refers to the traversal Entity class that will be joined to the primary traversal.

**[0236]** 1) Add the `[join traversal ASec table name].[traversal ID name]` column to the `SELECT` clause.

**[0237]** 2) Add the `[join traversal ASec table name]` and `[primary traversal ASec table name]` in the `FROM` clause.

**[0238]** 3) Include the `[join traversal ASec table name].Begin_Pct`, `[join traversal ASec table name].End_Pct`, `[primary traversal ASec table name].Begin_Pct`, and `[primary traversal ASec table name].End_Pct` columns to the dynamic segmentation join portion of the query.

**[0239]** 4) If necessary, include the Entity ID relationship between the primary traversal ASec table and any other primary traversal tables included in the query.

**[0240]** 5) Because the Traversal overlaps Traversal relationship will result in many records for each traversal, include a `SELECT DISTINCT` or `GROUP BY` clause to eliminate this redundancy.

**[0241]** The “Traversal intersects Traversal” relationship identifies the traversals that intersect a given traversal at an Intersection Entity. The following steps describe how to implement the Traversal intersects Traversal relationship. In this description, the term “primary traversal” refers to the traversal Entity class that is the primary Entity class for the query, and the term “join traversal” refers to the traversal Entity class that will be joined to the primary traversal. In an alternative embodiment, a table is added to the model just to support this relationship.

**[0242]** The “Intersection occurs on Traversal” relationship identifies the intersections that occur along a given traversal. The following preferred method describes how to implement the Traversal intersects Traversal relationship. It will be apparent to one skilled in the art that this method is to be modified the use the additional table mentioned above, for the alternative embodiment.

**[0243]** The following are the other Entity relationships that are built-in to the data model. It will be apparent to one of ordinary skill in the art how to develop the appropriate SQL statements for these relationships.

- The “Road Furniture located on Traversal” relationship identifies road furniture Entities that are located on a traversal.
- The “Section is part of Intersection” relationship identifies the sections of road that are part of an intersection.

- The “Traversal intersects at Intersection” relationship identifies the traversals that intersect at each intersection.
- The “Road Furniture is located at Intersection” relationship identifies the road furniture Entities that occur at an intersection.
- 5     • The “Section is location of Road Furniture” relationship identifies the sections of road on which road furniture Entities are located.
- The “Traversal is location of Road Furniture” relationship identifies the traversals on which road furniture Entities occur.
- The “Road Furniture is co-located with Road Furniture” relationship identifies  
10     road furniture Entities that occur at the same location as other road furniture Entities.

**[0244]**       The Relate table Entity relationships define relationships between Entities by defining the elements that must be added to a SQL statement in order to join the Entity tables of the related Entities. The following preferred method describe  
15     how to implement a relationship based on the Relate table. In this description, the term “to Entity class” refers to the primary Entity class in the query, and the term “from Entity class” refers to the Entity class that will be joined to the primary Entity class.

**[0245]**   1)   Add the [from Entity class table name] and [to  
20     Entity class table name] to the FROM clause

**[0246]**   2)   Add any additional relate table names to the FROM clause.